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## THE RELATIVE VALUE AND COST OF VARIOUS TRADES IN A GIRLS' TRADE SCHOOL

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Trade schools, which directly aim to fit young women for specific occupations in which they can support themselves are not numerous in the United States, but a definite movement toward their organization is evident at the present time. There have been many sporadic efforts to understand the industrial conditions under which women work, and the physical and moral effect such work is having upon them, but concerted and comprehensive investigation is greatly needed. Serious study of these subjects is absolutely essential as a preliminary to organizing trade classes in any community, and work begun without such preparation may be positively harmful from the lack of knowledge of the problems involved.

It is true that many schools of a technical or domestic nature have been started to train women, but the instruction in them has been heretofore, for the home or for educational purposes rather than for business. The trades, if they are represented at all in these schools, are general in character covering often many branches of an industry in a short series of lessons, and not with the particular subdivisions and special equipment which are found at present in the regular market. Such schools serve a direct and beneficial purpose, but only indirectly affect the industrial value of the working girl.

In considering "The Relative Value and Cost of Various Trades in a Girls' Trade School," the equipment, budget, curriculum and courses of work in these technical-domestic schools give but a partial view of the subject. Only the real trade school can offer specific suggestions, but these are unfortunately limited in number, and their experience extends back only a few years. The subjects taught in them and the methods of instruction are still, of necessity, in a changing and developing condition.

The data for this article are based upon actual conditions in several schools which deal chiefly with trade needs and endeavor constantly to keep in touch with the industries for which they offer instruction. The deductions, however, must be considered suggestive rather than final, on account of the newness of the work.

Does experience in trade school organization enable one to give a list of good trades for women? Many influences unite in any given locality in settling the industrial opportunities for workers. A trade which is good in one city may be seldom or never found in another, and hence a list of good trades cannot be made for universal application. Even though some occupations seem to be found everywhere, the workroom requirements differ widely and need special consideration. Such a list would, therefore, have to be accompanied by so many important qualifications that, in the end, personal investigation alone could prove that the subject should be taught in the schools of any particular place.

Women and girls are now admitted into the majority of trades in the United States. The conditions of work in many of them are unsatisfactory. In some, the girls pick up odd jobs in which, if they gain speed they can make more or less fair wages, but from which they are not helped to better positions. Wrapping braid, sorting silk, tying fringe, taking out and putting in buttons in a laundry, dipping candy, assorting lamps, and the like, may be mentioned as representative. In still other classes of work they are employed only at inexpert or even menial tasks, all advance being blocked. Instances of such occupations are those in which the bulk of the work requires great physical strength, as in tending massive machinery. In many good trades the future is closed to women, for the reason that the expert work is in the hands of men who are protected by their unions. This is the case, for example, in book-binding, lithography, and parts of the upholstery trade in New York City. The training of women for occupations where their progress is stopped or where they are only allowed to do the inexpert work, with the consequently low wage, is useless. Still again, there are positions which offer a good wage, the demand for workers being greater than the supply, but where there is small chance for advance unless the education and ability are above the average. Clerical work in business houses, in lawyers' offices, or in banks, is an instance of such employment.

Bad physical conditions are found to attend some trades in large cities. Such employments deplete the strength of women, and in many instances lead to immorality. There is danger of this kind when the market demands a cheap article and the workrooms providing it are small, the ceilings low, the rooms overcrowded with workers, the product piled up all about, the demand for inexpert workers large, and the pay small.

Many working girls are already in poor physical condition. Trades which may be harmless to the strong are injurious to them, and unsanitary workrooms are disastrous. In many cities incipient tuberculosis is found. For girls thus affected the continual sitting in a constrained position as in fine sewing; the crowded workrooms; those trades which give off dust, lint or fine particles, and the warm, moist air of a laundry should be avoided. Occupations should be chosen which require standing or moving freely about in good, dry air, as in many forms of delicate pasting and novelty work, or in the work of stock clerks and buyers. Incipient curvature of the spine is found also where the poor are crowded together in tenements and the children are underfed and consequently ænemic. Foot and power machine work and trades requiring the worker to lean for hours over varieties of fine handwork are bad for those whose spines are weak as well as for those whose eyes are affected. Certain other trades, even if they pay well, should be avoided by all women on account of the bad physical reactions which are almost sure to follow. Illustrations of these are work on cut glass, cigar stripping, pearl button making, fur and feather work, and X-ray and many other forms of electrical work, unless guards are provided.

Into such employments as have been mentioned thousands of girls enter. They find each unsatisfactory in turn, and wander into the next in search of something better. They do not become more capable as they proceed, for one experience does not fit them for the next. The director of a trade school must know how the majority of women are employed in her community, even though she rejects most of these occupations from the curriculum of the school, and chooses only those in which there is hope of future advance. In the expert trades themselves she finds discouraging conditions even for the trained workers. The long slack seasons which occur in many otherwise good trades are so serious that a girl often prefers a poorer occupation with steady wage all of the year to such

highly paid, temporary positions. Millinery, machine straw hat making, and many forms of novelty work are instances of such seasonal work. As uncertainties of this kind exist in all industrial communities, each city must, of necessity, determine for itself the advantage of subjects for trade instruction. If poor seasons interfere with a good trade the director must find an allied occupation which is busy when the other is slack, and train each worker for both. Otherwise a girl, even when she is considered capable and is placed in a good position, will find she must yearly go through months of idleness or else wander about in search of something to yield her a small support during the interval in her regular business.

Special industries requiring skilled workers are located in some cities. New York, for instance, is the center of the ready-to-wear clothing trades. The work is highly specialized, ranging from the very simple for the unskilled hands to the most delicate and elaborately decorated for workers of ability and long experience. A school situated here must of necessity prepare for the needs of these numerous workrooms. In other large cities trades of this special character may not be found at all, but occupations of a different kind which also need trained workers may be developed. For instance, corset factories requiring experienced hands on electric power machines; textile and lace manufacture requiring the finest hand sewers, repairers and darners; and passementerie and dress trimming workrooms, where knowledge of the control of the various foreign and domestic embroidery machines is a necessity.

Although it is difficult to enumerate trades which are good in all parts of the United States, general statements may be made of necessary conditions which should be met. Good trades for instruction are those which require expert workers; which employ large numbers of women; which are with difficulty learned in trade workrooms; which pay good wages and offer the chance of continual promotion for better work; which have favorable physical, sanitary and moral conditions in the workrooms; which provide a steady occupation during most of the year, or if seasonal, hold out a prospect to the workers of a possible temporary transfer with fair pay to another allied trade during the slack season.

It can be said in general also that workrooms should be avoided in which the principal object is the cheapest work; in which the

product is in demand and very inexpensive, or where men and girls are working together; in which the workrooms are crowded, dark and unsanitary; in which machines are rapidly taking the place of handwork, and men's trades intervene. Trades that are well organized are generally better than the unorganized. Work in the factory is usually better than is the custom work in the home, for the factory is more apt to observe the laws in regard to light, air, cleanliness, and hours of work.

Still another question which needs thoughtful investigation is the effect the trade school will have on the working people of any community. Oversupplying workers for a trade and thus lowering wages, or training for work which will throw men out of employment while girls step in for less remuneration, and providing workers during a strike, are serious mistakes for a trade school to make if it wishes to help the class which needs help most.

The careful investigation in New York City of all of the above-mentioned conditions resulted in the selection of the following trades for the curriculum of the Manhattan Trade School for Girls, begun November, 1902. To this list general statements of the length of the season of employment and of the wages secured are also added. The need to be self-supporting compels thousands of girls in this city to go to work when the compulsory school years (until the age of fourteen) are over. Those who come to the school can give but a few months or a year at most to preparation. Hence the courses must be short and directly adapted to the needs:

- I. Use of electric power sewing machines.
  1. General operating—  
(Cheaper variety of work—seasonal, fair wages. Better grade of work—year round, fair and good wages piece or week work).  
Shirtwaist making.  
Children's dressmaking (cloth and cotton).  
Boys' waists.  
Infants' wear.  
Children's underclothing.  
Women's underwear.  
Fancy petticoats, kimonos and dressing sacques.
  2. Special machines—(seasonal to year round work, depending on kind and demand, wages good).  
Lace stitch.  
Hemstitching.  
Buttonhole.  
Embroidery (hand and bonnaz).

3. Dressmaking operating—(year round, wages good).  
Lingerie.  
Fancy waists and suits.
4. Straw sewing—(excellent wages for a short season, but the worker can then return to good wages in general operating).  
Women's and men's hats.
- II. Use of the needle and foot-power sewing machines—(seasons nine to eleven months, and fair to good wages).  
Uniforms and aprons.  
White work and simple white embroidery.  
Gymnasium and swimming suits, wholesale and custom.  
Lingerie.  
Dress embroidery.  
Dressmaking, plain and fancy.  
Millinery—(short seasonal work, low wages, difficult for the average young worker to rise).
- III. Use of paste and glue.  
Sample mounting (virtually year work, fair wages).  
Sample bookcovers.  
Labeling.  
Tissue paper novelties and decorations—(seasonal and year round work, good wages).  
Novelty work—(year round work changed within workroom to meet demand, wages good).  
Jewelry and silverware casemaking—(year round work, wages good).
- IV. Use of brush and pencil—(year round work, good wages).  
Special elementary art trades.  
Perforating and stamping.  
Costume sketching.  
Photograph and slide retouching.

NOTE.—Year round work usually includes a holiday of longer or shorter duration.

At the Manhattan Trade School, besides the trade work, the students must each have art and academic work as a direct part of their trade. Wholesale trade and custom work are taken in all departments to give reality to the instruction, to serve as a basis of true criticism, and to provide materials of the right character upon which to work. The school is open all of the year; students can enter at any time, the only requirements being that they can get working papers, are in fair physical condition, and have a reliable person to introduce them. A large number who enter have not graduated from the public schools, and many have only reached the fifth or sixth grade. While two-year courses are offered, the work is so

planned that those who must support themselves can be prepared for some wage-earning position, even if they can remain but three months. Placement is done by the school through a secretary, who gives her time to this subject.

Five years of experience at this school gives the wages of those who have been placed in trade, and shows first, the tendency of each worker to rise to better positions, and second, the increasing wage at entering the market owing to improved methods of training the workers. This experience also shows that employers of labor appreciate the value of the girl trained at the school.

	Wages upon entering trade. 1903.	After 2 to 4 years in trade 1907	Possibilities in the trade \$25 or own establishment.
Dressmaking .....	\$3 to \$5	\$4 to \$7	\$5 to \$12
Millinery .....	2.50 to 4	3 to 5	4 to 9
Operating (including straw hat making)...	3 to 6	4 to 8	5 to 25
Novelty .....	3 to 5	3 to 6	6 to 10
Trade art .....		5 to 8	Work organ- ized but a short time.

From the table it would seem that in New York City the good worker on electric power machines has the best opportunity for a good wage; dressmaking is next, and novelty work follows closely. Millinery is the lowest and is also the most affected by seasonal occupations. Teaching the skilled use of the needle affects one-fifth of the women employed in this city, and hence it seems essential to offer training in this line.

The study of business conditions has been found to be constantly necessary, the requirements in the New York workrooms varying on account of fashion, labor difficulties, or new mechanical contrivances. Every year the school has dropped something from the curriculum, changed the method of teaching work already established or has added a new subject to the course. Thus knowledge of trade needs is vital.

The Boston Trade School, which began in 1904, two years after the Manhattan Trade School, faces similar problems in being obliged to prepare workers for positions as speedily as possible on account

of their poverty and need to be self-supporting. A study of trade in that city preceded the organization of the instruction and continues to be necessary, as is the case at the Manhattan Trade School.

The following trades are taught in Boston:

*Dressmaking:* So graded that girls who have not the ability to do very skilful work may specialize in children's clothes, underwear, shirtwaists, or wash dresses. At present this trade offers the greatest demand for trained girls, shows apparently more appreciation of the value of training and offers a higher beginning wage. The workrooms are busy nine or ten months in the year.

*Clothing Machine Operating:* Dealing with ready-made factory clothing,—aprons, men's shirts, shirtwaists, petticoats, underwear, etc., but not ready-made dresses. This trade constantly demands workers, but does not offer good pay. Girls seeking training are not attracted to it.

*Straw Machine Operating:* For all kinds of ready-made straw hats. This trade offers excellent wages and a six to eight months' season for a limited number of girls.

*Millinery for Custom Trade:* Eagerly takes the trained workers and offers good opportunities for advancement. The seasons are short.

It can be seen that these schools, in fitting into the industrial conditions of the two cities which they serve, have variations in their required work and also in the value of the trades selected when placing their students. Although the short time trade school is perhaps the only one where trade conditions are and of necessity must be exactly reproduced in the instruction in order to accomplish specific results in a limited time, there is another class of school which combines trade features with the technical or domestic branches. Institutions of this character offer a longer period of required training, and, therefore, must draw their students from those who can give more time to preparation than can those who are hurried into the business world by the poverty of their parents. An excellent example of this class of instruction is the Hebrew Technical School for Girls in New York City, begun as a Sunday school in 1882, and as a technical day school in 1887. Those who enter are graduates of the public schools. Here the pupils are examined at entrance. Two courses are offered, each being eighteen months in length,—the commercial, comprehending bookkeeping,

stenography, typewriting and business methods; and the manual, which teaches hand and machine sewing, embroidery, millinery and dressmaking. While the scope of this article does not include commercial training, the experience of the capable director of this school as to the importance of this field is worthy of consideration. After twenty years of training girls he says that those who have had a good general education and who can give eighteen months to a further special training will find in the commercial field better opportunities for good wages and steady rise of employment than in the trades. He feels that mental work is less fatiguing than manual, the pay in general is higher, and the office hours are shorter, thus leaving time for improvement. The usual type of New York trade worker who leaves the public school at the first moment the law will allow, and in general from the lower grades, has not sufficient education for this course, and the manual trades alone offer her opportunities. The manual course gives the general training for the home rather than the specific as needed by trade. All students take the same course. Two workrooms, lingerie and dressmaking, are connected with the school, and graduates of the manual course so desiring may obtain employment in them. About one-half of the girls who have graduated from the manual department have sooner or later gone into trade. About one-third of the students are in this department and two-thirds are in the commercial. Academic work and art accompany and strengthen other courses. Effort is made to place in trade those who desire it.

While excellent and more or less trade-like courses are offered at such institutions in Greater New York as Pratt Institute, the Washington Irving High School, and the Young Women's Christian Associations, they throw no more light on the value of trades for girls than has been given already. Most of them are training for the use of the needle in some form, because this tool enters so largely into woman's economic life, whether in trade or in the home.

Distributed over the continent of Europe and adapted to the various nationalities are numerous professional schools for girls with courses ranging from one to five years. The following trades are represented in the various curriculi: Garment making for women and children; dressmaking; fine underwear and white work; millinery; artificial flowers; waistcoat making and cloth work; corsets; gloves; embroidery (hand and machine); lace making (hand, pillow,

crochet needle and machine); men's shirt making; fine laundry work; fine darning and hand weaving; and art in many phases, such as costume designing, china and fan painting, textile and other varieties of industrial designing. Hair dressing and manicure work are also found.

In the schools abroad offering several years of instruction, the academic subjects, art, housekeeping, cooking and physical education are usually included. Belgium offers numerous and excellent instances of these schools of four or five years' training and also a few examples of the apprentice school for girls, where a reproduction of trade conditions is found. Many of the foremost women in the regular trade workrooms of Belgium and also those at the head of separate trade establishments are graduates of these schools. A small fee is usually required, although scholarships provide for many of those who are too poor to pay. The local government, societies, trade unions, and private interests help to support these schools. In Belgium the government has entire supervision, and definite requirements must be met by the private as well as by the regular government schools. In these long-time schools the trade features of instruction are less apparent than the technical, and the problem is entirely different from the training for direct trade work.

The question is frequently asked why the trades offered in the foreign trade schools are not given in schools of the United States. In many instances, these occupations are more developed in Europe than with us, or when found in our cities are not of sufficient importance to train many workers for them. If any are found to be developed where there is a trade school, the training for them should be offered. It frequently happens also that the tool required is the same as for other more usual industries. The worker who learns to use her tool in one has little difficulty in changing to another. For instance, an electric power operator trained at a good school can change from fine white work to gloves, corsets or waists with a short practice period. Although the foregoing indicates that specific trades which will suit all schools cannot be found, it can be seen that the needle and sewing machine play a large part in women's employment. Training for the use of these tools is important in girls' trade schools, as well paid work of the greatest skill is frequently required and employers of labor find efficient workers hard to obtain. It will be found though that the branches of the

trades where these tools are used vary in different communities, the popularity among the working class of such trades causes many to elect them who have no capacity for them or who cannot remain in the school long enough to become expert.

The expenses of trade school education, as compared with those of the ordinary school, are large. The special equipment, the skilled instructors, the long hours, the twelve months' courses and the supplies of material are factors in this outlay. The equipment, even though simple, often demands considerable expenditure of money, especially if the various electric operating trades are to be taught. The instructors must have specialized knowledge and skill as well as the ability to teach, but the classes cannot be large when expert processes are involved. The efficient worker, who is a success in her trade workroom, can command an excellent wage. The trade school must compete with this good salary in place of that of the underpaid teacher. Such an institution cannot afford to employ an unsuccessful worker or a teacher who knows nothing of the market to instruct students for industrial positions. The good teacher, who can also succeed in trade, is rare, and when found can command high remuneration.

The equipment in the majority of business workrooms is composed of essentials only, and a school does not need to have more. Much additional money may be spent in expensive furniture and woodwork. The following lists and estimates<sup>1</sup> show the actual needs and necessary expenses in three groups of trades:

Garment or dressmaking.

Sewing machines, each .....	\$18.00 to \$70.00
Work, cutting, and ironing tables, each .....	6.00 to 20.00 upward
Electric irons, each .....	7.75 "
Gas stove (necessary when electric irons are not used), each .....	2.00 "
Cheval glass, each .....	20.00 to 100.00 "
Chairs, each .....	.50 to 3.00
Exhibition cases, stock closets, cabinets and chests of drawers, each .....	10.00 to 100.00 "
Fitting stands, each .....	2.00 to 30.00 "
Fitting room (a curtained alcove)..... (a furnished room) .....	10.00 100.00 "
Dress forms, per dozen .....	30.00 "
Waist forms, per dozen .....	6.00 "
Sleeve forms, per pair .....	1.00 to 1.50 "
Lockers, per running foot .....	3.00 to 8.00 "

<sup>1</sup>Retail prices are quoted.

A room for twenty workers may be plainly furnished at a cost of \$300 to \$500. If a large number of expensive sewing machines are desired the estimate must be increased by several hundred dollars. The equipping of a workroom for electric power operating, including general and special machines, motor, cutting and work tables, cabinets and chairs, will be considerably more expensive than the one for garment making. In the latter, one sewing machine can be used by several workers, but in electric operating each worker must have her own machine. The electric motor adds also to the expense. The minimum cost of equipping a shop for twenty workers would be \$1,000 to \$1,500.

The necessary equipment would be:

Plain sewing machines in rows, per head .....	\$22.50	upward
Troughs for work between the rows and tables for the machines, per two machines.....	10.00	"
Special machines (two needle, embroidery, lace stitch, buttonhole, straw sewing, and the like), each according to kind .....	35.00 to 150.00	
Motor, each .....	140.00	"
Cabinets, tables, chairs and irons as above.		

In workrooms conducting trades which use paste, gum and glue, the following special equipment is required:

Glue pots (gas), each .....	\$7.50	upward
(electric), each .....	21.75	"
Hand cutter, each .....	50.00	"

Special machines for cutting large quantities of cloth, for perforating designs or for pleating materials are often needed in teaching the garment trades. Typewriters, mimeograph machines, electric clocks, and up-to-date business devices will be required also in a school of any size or pretension. Wholesale prices can usually be obtained when the order is large. Dealers have also shown themselves willing to sell their machines at low prices, to loan them, and even to give them to a school which has proved its ability to train good workers.

The cost of housing, the equipment and the annual expense of a school depend on many factors, among which may be mentioned the kind of trades taught and the class of building to be maintained. The annual expenses per pupil will range from \$75 to \$175. The

per capita expense in trade schools for boys will go much higher. The three schools whose courses of work have been mentioned already have furnished data on these items. They are all private schools, with no connection with the public instruction of their cities. They charge no fees and are open for instruction for eight hours a day all the year round. They are all giving special attention to the health of each student by the aid of specialists and by some form of practical cooking and study of proper foods.

The Hebrew Technical School for Girls, with 381 students, has lately built and equipped an ideal building for its work at an expense of \$382,000. Of this amount, the land cost \$132,500, the building \$215,000, the swimming pool \$22,000, and the equipment \$12,000. The annual expense of running is a little over \$40,000, which includes teachers' salaries, \$23,500; office salaries, \$3,500; maintenance, \$12,000; and printing and stationery, \$1,200.

The Boston Trade School, which has 171 students, is housed in two adjoining dwelling houses, with a rental of \$1,400 per annum. The equipment in furniture and machines cost \$2,800. The annual expense of running is \$14,500, of which sum teachers' salaries constitute \$9,500, the administrative salaries \$2,000, and the maintenance \$3,000.

The first home of the Manhattan Trade School was a large four-story and basement dwelling house, for which a rental of \$2,100 per annum was paid. The initial equipment provided for 150 students and cost \$9,500. The school quickly outgrew its quarters and bought a large business loft building at an expense of \$175,000. The former equipment was used and \$5,000 spent in addition for furniture and sewing machines. The number of students from July, 1907, to July, 1908, was 470. The annual expense of running is \$36,000, of which the salaries for teachers are \$20,000, for administration \$6,000, and maintenance \$10,000.

Both the Boston and the Manhattan Trade School's are furnished with great simplicity, merely reproducing good workroom requirements. The cost of supplies for trades taught, in both schools, is more than covered by the trade orders executed and by the sales of finished work. Shops which exactly reproduce trade conditions are an important part of the educational work of these institutions. The providing of correct materials, which must be often very costly, is a serious question in the short-time trade school. The girls are too poor to buy materials even to make the simplest gar-

ment for themselves,—the clothing which is worn daily being often the complete wardrobe of the wearer. The taking of order work has proved not only to eliminate expense, but to lend reality and interest to the instruction. The cost of articles is kept strictly up to the market. When a large amount of order work is turned out by a school every year, the business management connected with the invoices, sales and delivery of the goods requires special attention and expense.

In all three of the schools mentioned there are methods of giving aid, according to the need, to those who cannot otherwise attend. This has been found to be absolutely necessary. The money appropriated for such aid is outside of the yearly educational budget, but must also be reckoned with when a school attempts to help the poorest class of workers. Experience at the Manhattan Trade School seems to indicate that about one-fourth of the students need some assistance ranging from carfare only to the equivalent of a small wage which the girls could make in trade and which the parents cannot forego.